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EXAMINER

JOO, JOSHUA

ART UNIT PAPER NUMBER

2154

DATE MAILED: 12/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/055,650	Applicant(s) TRAVERSAT ET AL.	
	Examiner Joshua Joo	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-64 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/3/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment filed 6/16/2005***

1. Claims 1-64 are presented for examination.

***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted 11/3/05 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

***Claim Rejections - 35 USC § 112***

3. Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i) As per claim 12, in the limitation to "adjust the values of M and N according to said reliability", "M" and "N" lack proper antecedent basis as it is unclear what M and N that are being adjusted.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1-3, 5-7, 11-15, 18, 22, 25-27, 29-31, 35-40, 43, 45-47, 49-51, 55-60, and 63 are rejected under 35 U.S.C. 102(e) as being unpatentable by Davis et al, US Patent #6,105,064 (Davis hereinafter).

6. As per claims 1, 25, and 45, Davis teaches the invention as claimed including a method, system, and an article of manufacture for dynamically adjusting windows in a peer computing system. Davis's invention comprising:

a plurality of peer nodes operable to couple to a network (Col 8, lines 21-24. Peer nodes.), wherein each of the plurality of peer nodes comprises one or more network interfaces; wherein each network interface is configured to communicate over the network in accordance with at least one or more network transport protocols (Col 9, lines 5-8. Endnodes establish network communication session.);

wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other (Col 8, lines 21-24. Peer-to-peer network.), communicate with each other (Col 75, lines 3-5. Sending endnode request connection with receiving endnode.); and share content in the peer-to-peer environment (Col 9, lines 23-34. Establish connection for sending data.);

wherein one of the plurality of peer nodes is configured to:

establishing a communications channel between a network interface of the peer node and a network interface of another of the plurality of peer nodes (Col 9, lines 5-8. Endnodes establish network communication session.);

transmit messages to the other peer node over the communications channel (Col 59, lines 1-3. Transmits packets.);

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receive acknowledgement that one or more of the transmitted messages have been received by the other peer node (Col 59, lines 1-3. Acknowledges packets.); and

retransmit messages not acknowledged as received by the other peer node to the other peer node on the communications channel (Col 73, lines 44-47. Unacknowledged packets are retransmitted.).

7. As per claims 2, 26, 46, Davis teaches the invention in claims 1, 25, and 45, wherein, to transmit messages to the other peer node over the communications channel, the peer node is further configured to:

generate messages (Col 29, lines 54-60. Data is send. Col 10, line 9-20. Messages.);

buffer the messages, and after a window of N messages has been buffered, transmit the N messages to the other peer node over the communications channel, wherein N is an integer greater than one (Col 29, line 51-60. Window size is determined for transmission of packet. Col 49, line 61-Col 50, line 55. Data is buffered prior to transmission.).

8. As per claims 3, 27, 47, Davis teaches the invention as recited in claims 2, 26, and 46, wherein the other peer node is configured to receive the transmitted messages, and after receiving M messages, transmit the acknowledgement to the peer node indicating that the M messages have been received, where M is a positive integer less than or equal to N (Col 30, lines 66-67. Sends acknowledgments to the number of received packets. Col 59, lines 34-35. Acknowledges to packets received.).

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9. As per claims 5, 29, 49, Davis teaches the invention as recited in claims 3, 27, and 47, wherein M is less than N (Col 29, lines 64-66. Lost packets. Col 30, lines 66-67. Acknowledge receipt of packets.).

10. As per claims 6, 30, 50 Davis teaches the invention as recited in claims 5, 29, and 49, wherein, to receive acknowledgement that one or more of the transmitted messages have been received by the other peer node, the peer node is further configured to receive the acknowledgement indicating that M messages have been received (Col 30, lines 65-67. Sends acknowledgement of packets received.), and wherein the peer node is further configured to:

shift the window in the buffer by M messages (Col 30, lines 65-67. Shift window by number of packets acknowledged.); and

transmit the messages in the shifted window to the other peer node over the communications channel (Col 29, lines 51-60. Send packets according to window size.).

11. As per claims 7, 31, 51, Davis teaches the invention as recited in claims 6, 30, and 50, wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node (Col 30, line 1-8. Changes window size and retransmits the packet. Col 29, lines 51-60. Send packets according to window size.).

12. As per claims 11, 35, 55, Davis teaches the invention as recited in claims 1, 25, and 45, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node (Col 2, lines 13-16. Packets are assigned sequence numbers. Receiver places data in original order.).

13. As per claims 12, 36, 56, Davis teaches the invention as recited in claims 1, 25, and 45, wherein the peer node and the other peer node are further configured to:

monitor the reception and retransmission of the messages to determine reliability of the communications channel on the network (Col 30, lines 65-57. Receives acknowledgement of packets received. Col 32, lines 15-29. Examines results of through measurements, detects bandwidth.); and

adjust the values of M and N according to said reliability of the communications channel (Col 30, lines 65-67; Col 31, lines 1-3. Size of window is changed according to acknowledgements. Col 32, lines 18-22. Changes window size according to network conditions.).

14. As per claims 13, 37, 57, Davis teaches the invention as recited in claims 12, 36, and 56, wherein, to adjust the values of M and N, the peer node and the other peer node are further configured to lower the values of M and N if said reliability of the communications channel is poor (Col 31, lines 61-63; Col 31, lines 1-7. Decrease window size if packets are lost.).

15. As per claims 14, 38, 58, Davis teaches the invention as recited in claims 12, 36, and 56, wherein, to adjust the values of M and N, the peer node and other peer node are further configured to raise the values of M and N if said reliability of the communication channel is good (Col 26, lines 57-64; Col 30, lines 65-67. Increase window size according to acknowledgements.).

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16. As per claims 15, 39, 59, Davis teaches the invention as recited in claims 1, 25, and 45, wherein the other peer node is configured to (Col 8, lines 19-24. Any computer may function as a peer, and as a client and server. Col 8, lines 34-35. Different computer assume the sending and receiving roles.):

transmit other messages to the peer node over the communication channel (Col 59, lines 1-3. Transmits packets.);

receive acknowledgement that one or more of the transmitted other messages have been received by the peer node (Col 59, lines 1-3. Acknowledges packets.); and

retransmit messages not acknowledged as received by the peer node to the peer node on the communications channel (Col 73, lines 44-47. Unacknowledged packets are retransmitted.).

17. As per claim 18, 40, 60, Davis teaches the invention as recited in claims 1, 25, and 45, wherein the communications channel passes through one or more relay peers, wherein the one or more relay peers are configured to receive the transmitted messages from the peer node and forward the messages to the other peer node (Col 8, lines 3-5. Server may configured as a networked peer. Col 8, lines 29-31. Server acts as an intermediate node between sending endnode and receiving endnode.).

18. As per claim 22, 43, 63, Davis teaches the invention as recited in claims 1, 25, and 45, wherein the peer node is further configured to compare elapsed time since the messages were transmitted to a timeout limit and, if the elapsed time exceeds the timeout limit (Col 3, lines 35-36. Col 31, lines 27-38. Expiration of time-out period.), retransmit the messages to the other



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peer node over the communications channel (Col 73, lines 44-47. Retransmits unacknowledged packets.).

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 4, 8-10, 28, 32-34, 48, and 52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, in view of Barker et al, US Patent #5,931,916.

21. As per claims 4, 28, and 48, Davis does not specifically teach the peer computing system as recited in claim 3, wherein N is a positive even integer, and wherein M is equal N/2.

22. Barker teaches of a similar system of adjusting the window for the transmission of packets, wherein the receiving sends an acknowledgement after a certain number of messages in a sequence have been received (Col 6, lines 25-31, 63-66).

23. Even though Davis and Barker do not explicitly teach the receiver endnode of receiving N/2 messages, Barker does teach of sending an acknowledgment after a certain M packets have been received. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Davis and Barker and for the receiver endnode to transmit an acknowledgment after any M messages including N/2 messages because doing so would allow the sender endnode to remove the acknowledged packets from the queue or buffer, transmitting addition packets equal to the number of received

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packets, and adjusting the window size, thereby improving the transmission of packets without data loss.

24. As per claims 8, 32, and 52, Davis teaches the peer computing system as recited in claim 2, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node (Col 2, lines 13-16. Packets are assigned sequence numbers. Receiver places the data back in its original order.), and wherein the other peer node is configured to: receive the transmitted messages (Col 59, lines 34-36. Receives packet.). Davis also teaches of transmitting an acknowledgement to received messages (Col 73, lines 1-4). However, Davis does not explicitly teach that after receiving the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers, transmit the acknowledgement to the peer node indicating that the first M messages have been received, wherein M is a positive integer less than N.

25. Barker teaches a similar of adjusting the window for the transmission of packets, wherein receiving the first messages in the sequence of N transmitted messages as indicated by the sequence numbers, and transmitting an acknowledgement indicating that the first messages have received, wherein M is a positive integer less than N (Col 6, lines 65-67; Col 7, lines 18-19).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Barker because teachings of Barker to performs the above method of paragraph 25 would improve the system of Davis by allowing the sender endnode to adjust window size according to the received sequence, thereby

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improving the flow of traffic, and allowing the sender endnode to remove successfully transmitted packets from its queue or buffer.

27. As per claims 9, 33, and 53, Davis teaches the peer computing system as recited in claim 2, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node (Col 2, lines 13-16. Packets are assigned sequence numbers. Receiver places the data back in its original order.), and wherein the other peer node is configured to:

continue receiving the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received (Col 6, lines 63-67. Sends acknowledgement due to the receipt of a certain number of packets. Col 73, lines 44-47. Packets are transmitted, and acknowledgement is send when the packets are received.) or a timeout limit from the time of initial receipt of one of the sequence of N transmitted messages is exceeded, wherein M is a positive integer less than N (Col 31, line 26-28. Expiration of time out period. Col 73, lines 44-47. Unacknowledged packets are retransmitted.).

28. However, Davis does not teach that if the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating that a count of messages received in continuous sequence from a first message in the sequence of N transmitted messages is M; and

if the timeout limit is exceeded before the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating the count of messages received in continuous

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sequence from the first message in the sequence of N transmitted messages, wherein the count of messages received in continuous sequence is less than M.

29. Barker teaches a similar of adjusting the window for the transmission of packets, wherein if the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating that a count of messages received in continuous sequence from a first message in the sequence of N transmitted messages is M (Col 7, lines 16-29. Transmits acknowledgment of sequence of received datagram, e.g. 8.) and

if the timeout limit is exceeded before the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating the count of messages received in continuous sequence from the first message in the sequence of N transmitted messages, wherein the count of messages received in continuous sequence is less than M (Col 6, lines 63-66. Transmit acknowledgement in consecutively received sequence numbered datagram. The acknowledgement acknowledges all earlier sequenced numbered datagrams.).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Barker because teachings of Barker to performs the above method of paragraph 29 would improve the system of Davis by allowing the sender endnode to adjust window size according to the received sequence, thus improving the flow of traffic, preventing the retransmission of received sequence of packets, and allowing the sender endnode to remove successfully transmitted packets from its queue or buffer.

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31. As per claims 10, 34, 54, Davis teaches the invention, wherein, to receive acknowledgement that one or more of the transmitted messages have been received by the other peer node, the peer node is further configured to receive the acknowledgement indicating that the messages have been received (See rejection to claim 1 above.) However, Davis does not teach the invention, wherein the peer node is further configured to: shift the window in the buffer by the count of messages received in continuous sequence; and transmit the messages in the shifted window to the other peer node over the communications channel.

32. Barker teaches a similar of adjusting the window for the transmission of packets by setting the window based on the sequence of the datagram and transmitting packets based on the window (Col 6, line 59-Col 7, line 2; Col 13, lines 14-19).

33. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Barker because the teachings of Barker to performs the above method of paragraph 32 would improve the system of Davis by allowing the sender endnode to dynamically adjust window size according to the received sequence, thus improving the flow of traffic by providing highest throughput without dropping packets.

34. Claim 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, in view of Ivanoff, US Patent #5,517,622 (Ivanoff hereinafter).

35. As per claims 16, Davis teaches of transmitting messages to the other peer node, receiving the acknowledgement, and retransmitting the message not acknowledged as received (See rejection to claim 1). However, Davis does not specifically teach the peer node comprising

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an instance of a pipe service executable within the peer node to establish the communications channel.

36. Ivanoff teaches of peer-to-peer system (Col 7, lines 56-57; Col 10, lines 35-38), wherein the peer node comprises an instance of a pipe service to establish a connection (Col 60, lines 49-54; Col 61, lines 1-21).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Ivanoff because the teachings of Ivanoff for a node to comprise an instance of a pipe service would improve the teachings of Ivanoff by providing different types of service to establish a connection with peer nodes and providing management of connections as taught by Ivanoff.

38. As per claim 17, Davis teaches a receiving endnode that receives the transmitted messages and transmits the acknowledgement to the peer node (See rejection to claim 1 above.) However, Davis does not specifically teach the system wherein the other peer node comprises another instance of the pipe service executable within the other peer node.

39. Ivanoff teaches of peer-to-peer system (Col 7, lines 56-57; Col 10, lines 35-38), wherein the peer node comprises an instance of a pipe service to establish a connection (Col 60, lines 49-54; Col 61, lines 1-21).

40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Ivanoff because the teachings of Ivanoff for a node to comprise an instance of a pipe service would improve the teachings of

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Ivanoff by providing different types of service to establish a connection with peer nodes and providing management of connections as taught by Ivanoff.

41. Claims 19-20, 41-42, and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, in view of Antur et al, US Patent #6,212,558 (Antur hereinafter).

42. As per claims 19-20, 41-42, and 61-62, Davis teaches a system wherein the communication channel passes through intermediate nodes such as router or a bridge (Col 8, lines 30-31). However, Davis does not teach the invention, wherein the communications channel passes through one or more firewalls or one or more Network Address Translation (NAT) gateways.

43. Antur teaches of implementing security policy, wherein Antur teaches the concept of using network address translators (Col 3, lines 38-67), and firewalls (Col 3, lines 32-36; Col 6, lines 1-4).

44. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Antur because the teachings of Antur to implement network address translator and firewall would improve the security of Davis' peer node system by preventing unwanted connections to peer nodes and keeping the IP addresses of peer nodes private from the rest of the network.

45. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis.

46. As per claim 21, Davis teaches the system wherein any peer node in a plurality of peer nodes may communicate with each other (Col 8, lines 19-24), wherein a node transmit

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messages to a second computer and receive messages from a third computer (Col 8, lines 37-40). Davis also teaches the concept of transmitting messages to peer nodes, receive acknowledgements that one or more the transmitted messages have been received; and retransmitting messages not acknowledged (See rejection to claim 1 above.). However, Davis does not specifically teach the peer computing system, wherein one or more other of the plurality of peer nodes are configured to connect to the communications channel, wherein the peer node is further configured to: transmit messages to the one or more other peer nodes over the communications channel; receive acknowledgements that one or more of the transmitted messages have been received by the one or more other peer nodes; and retransmit messages not acknowledged as received by the one or more other peer nodes to the one or more other peer node on the communications channel.

47. However, "Official Notice" is taken by the Examiner that a node in a peer-to-peer system capable of communicating with more than one node is well known in the art. It would have been obvious to modify the teachings of Davis to specifically teach the sending node to communicate with more than one receiving endnode, wherein communication involves transmitted messages, receiving acknowledgement, and retransmitting messages not acknowledged because doing so would improve the system of Davis by allowing a plurality of peer nodes in the system to share information with each other instead of limiting the communication to two nodes.

48. Claims 23, 24, 44, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, in view of Zhu et al, US Patent #5,768,557 (Zhu hereinafter).

49. As per claims 23, 44, and 64, Davis teaches of assigning sequence numbers to packets to allow the receiver node to order the packets (Col 2, lines 12-16), and retransmitting packets



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when the receiving endnode does not receive the packets (Col 31, lines 1-3). However, Davis does not explicitly teach the invention, wherein the peer node is further configured to: receive a request specifying one or more previously transmitted messages for retransmission by the peer node; and retransmit the specified one or more messages to the other peer node on the communications channel in response to the request.

50. Zhu teaches of receiving a request specifying previously transmitted messages for retransmission (Col 7, lines 44-49), and retransmitting the specified messages to the node (Col 7, lines 56-57).

51. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Zhu because the teachings of Zhu to request specifying previously transmitted messages for retransmission would improve the system of Davis by allowing the receiver to request data that were not received or request data when previously received data contain errors.

52. As per claim 24, Davis teaches of transmitting packets that contain the sequence number for ordering the packets (Col 2, lines 12-16). However, Davis does not specifically teach the peer computing system, wherein the request specifies a sequence number for each of the one or more specified messages.

53. Zhu teaches of a system for requesting retransmission of packets, wherein the request contains the sequence number of the lost packet (Col 7, lines 49-50).

54. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Davis with the teachings of Zhu because the teachings of Zhu

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for the request to contain the sequence number would improve the system of Davis by allowing the receiver endnode to request specific individual packets to reorder the sequence without having to request and transmit the entire sequence.

### ***Conclusion***

55. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- i) Nguyen, US Patent #5,442,637, teaches of sending an acknowledgement after a number N messages have been received, wherein the window size is adjusted according to control information.
- ii) Fukushima et al, US Publication #2005/0053093, teaches of requesting retransmission of data packets based on sequence.

56. A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

57. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

58. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on 571 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


59. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 6, 2005

JJ



**JOHN FOLLANSBEE**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**